4.0 General and Specific Mitigations – Environmental Effects

In developing the mitigations for Cassia County, fuel loads were inspected adjacent to all the roads within the County and, if flammable, the extent of these fuels along each road. Roads were evaluated for accessibility by large firefighting equipment such as tenders and pump trucks, surface conditions, bridge weight limits, road classifications, and proximity to structures.

Following are general mitigation plans and estimated costs that are applicable to all seven Fire Protection Districts and the three open areas where subdivisions and parcels have been evaluated. The next section discusses potential environmental effects to the physical, biological, and social resources identified for Cassia County as a result of project mitigation implementation. In the final section, specific mitigation plans are discussed that are tailored to the needs of each individual FPD and prioritized based on discussions with fire departments, BLM, and property owners.

General Mitigation Plans

These general mitigation recommendations should be implemented throughout the County wherever possible. The recommendations are a compilation of the observations, discussions and needs of the County related to fire protection opportunities within the Districts and the County. As the County needs and conditions change, these recommendations can change, be updated and adapted to the specific situations and surroundings of the area.

Community-wide outreach programs

Promote fire wise practices through the development and promotion of a community-wide outreach program such as FIREWISE and the "Red Zone Program. Red Zone is a copyrighted computer software program that provides fire fighters the information about access routes, construction materials, probable fire spread, occupants, and concerns for each existing home that has been assessed as part of the program. These programs are the basis of a community-wide education program, sponsored by the FPDs and BLM designed to 1) educate the public of the dangers of a wildfire in the area, 2) encourage residents to take responsibility in reducing the risk of a wildfire and to create defensible space around their residence, and 3) increase awareness of the natural role of low-intensity fire in woodland or grassland ecosystems and the benefits of prescribed burning or occasionally managing natural wildland fires to achieve ecological benefits while maintaining firefighter and public safety as top priority. The estimated cost is $10,000.00 per program.

Dry Hydrant Systems

Install a dry hydrant system and/or drafting areas for engines and tenders at locations such as irrigation canals, return flow ditches or any water sources known to flow or store water on a seasonal or permanent basis. The estimated cost is $750 to $1000 per hydrant including contractor labor and machine costs, 6-inch schedule 40 PVC pipe, a commercially made screen, and hydrant connector (Pohlman and White 2003)

Develop reciprocity agreements with Elko County, Nevada, and Box Elder County, Utah, which border the southern edge of Cassia County.

Cooperate with landowners to allow access to irrigation wells or pipes. This would require proper pipefittings on tenders and engines.

Contract with local water well users to provide water during fire activities.

Install large water storage tanks to be used where present water conditions are not adequate for large fires.

Coordinate and provide funding support to upgrade and improve upon inferior Community Service Infrastructure.

Upgrade communication systems to facilitate better communication between dispatcher, emergency, disaster, and fire personnel regardless of agencies involved. Computer systems as well as radio and phone systems need to be linked to facilitate voice and data transfer. The FCC will be mandating narrow band digital radios in the near future. Therefore all communication equipment belonging to the fire stations, dispatch center, and other emergency personnel will need to be upgraded.

The movement to central pivot irrigation systems results in straight stretches and corners no longer managed by the landowners. The result is a buildup of fine fuels and/or shrubs in the long term, providing more active fire and pathways for fire between owners. Periodic mowing of these leave strips should be encouraged to create a series of fuel breaks.

Create Defensible Space

Defensible spaces are areas between improved property and a potential wildland fire where the combustible fuel has been removed or modified. One or more of the following can provide defensible space:

Homes and outbuildings -

- Water or “greenup” lawn areas
- Pave or gravel driveways
- Mow vegetation or disk/blade ground to bare, mineral soil out to a minimum of 50 feet
- Remove and/or reduce vegetation immediately around buildings

Homes and outbuildings adjacent to agriculture lands - Greenstripping, or establishing strips of fire-resistant vegetation to reduce the spread of wildfire, is an established practice on BLM lands in Idaho (Pellant 1992). Greenstripping reduces wildfire spread by disrupting fuel continuity, reducing fuel accumulations and volatility and increasing the density of plants with higher moisture content. The reduction of the overall fuel load reduces the flame lengths and heat intensity produced on the greenstrips, but the increase in annual species composition and fine fuels produces increased rates of spread. Therefore, the following characteristics are important when selecting species for greenstripping on semiarid rangelands such as

Butte County: 1) adaptability to the range sites, 2) competitiveness with annual weeds, 3) ease of establishment, 4) low flammability, 5) open canopy and spacing, 6) palatability by livestock and wildlife (for efficient removal and control of litter and fine fuel buildup), and 7) resilience and re-growth capabilities. The estimated cost is $18 to $35 per acre to prepare seedbed for planting and $100 to $120 per acre for seed mix, fertilizer and yearly maintenance.

The Bureau of Land Management is actively engaged in numerous fuels reduction activities throughout the county and has several additional fuels treatments planned.

Maintain survivable space at each residence

- Remove portions of any tree extending within 10 feet of the flue opening of any stove or chimney.
- Clean roof surfaces and gutters of pine needles, leaves, branches, etc, regularly to void accumulation of flammable materials.
- Maintain a screen constructed of non-flammable material over the flue opening of every chimney or stovepipe. Mesh openings of the screen should not exceed 1/2 inch.
- Landscape vegetation should be spaced so that fire cannot be carried to the structure or surrounding vegetation.
- Remove branches from trees to height of 15 feet.
- A fuel break should be maintained around all structures and especially if residence is near a flammable fuel source.
- Dispose of stove or fireplace ashes and charcoal briquettes only after soaking them in a metal pail of water.
- Store gasoline in an approved safety can away from occupied buildings.
- Propane tanks should be far enough away from buildings for valves to be shut off in case of fire. Keep area clear of flammable vegetation.
- All combustibles such as firewood, picnic tables, boats, etc. should be kept away from structures.
- Garden hose should be connected to outlet.
- Addressing should be indicated at all intersections and on structures.
- All roads and driveways should be at least 16 feet in width.
- Have fire tools handy such as: ladder long enough to reach the roof, shovel, rake and bucket for water.
- Each home should have at least two different entrance and exit routes.

Practice the “zone” approach (Simmerman and Fischer 1989) at each residence

- Clean zone – 0-3 feet from buildings, remove all combustibles (i.e. decorative bark or shrubs, stack firewood uphill or contour away from building.
- Short surface fuels – 3-30 feet from buildings, keep grass, and all other low plants short, < 3 inches high. Isolate trees so no branches overhang roofs.
- Tall surface fuels – 30-100 feet from buildings, uncut grasses, scattered patches of medium shrubs is acceptable, however, keep all plants less than 18 inches high.
- Tree and tall shrub thinning and pruning – For 100 feet around all buildings, thin (remove) trees and large shrubs so there is 10 feet of open space between all crowns

and tops of plants. Remove the lower branches of all trees to a minimum of 10 feet above the ground. Scattered, isolated trees may be left unpruned for landscape purposes.
- Recommend the use of noncombustible roofing materials.
- Replace wood shingles, or
- Apply SHINGLE SAFE Fire Retardant on Wood Shake Shingles.

Use fire-blocking gel (Bartlett 2003). Provides a level of protection against radiant heat, direct flame impingement, flying brands and burning embers. Can be applied to structures, vehicles, fuel tanks, propane cylinders or any object exposed to the effects of a fire. Can by applied by homeowners using a standard garden hose. The estimated cost is $500 per 4000 square feet or for more information - (info@barricadegel.com).

Develop Minimum Impact Suppression Tactics (MIST) guidelines, which emphasizes suppressing wildland fires with the least environmental effect on the land.

Environmental Effects – Physical, Biological, and Social resources

The environmental effects to the physical, biological, and social resources resulting from a wildland fire include, but are not limited to: air and water quality, soil erosion and sediment delivery to streams and reservoirs, cultural resources, threatened and endangered plant, fish, and animal species, wildlife habitat, wetlands and riparian areas, Native American concerns, socioeconomic concerns such as BLM grazing allotments, subdivisions and parcels, rural communities, and wilderness or wilderness study areas.

Areas that generally burn hot are likely to have the greatest alterations in soil characteristics to the landscape (Graham 2003). In Cassia County these alterations include: (1) loss of surface soil organic matter, (2) reduced ground cover resulting in decreased infiltration of water and increased surface runoff and peak flows, and (3) the formation of pedestals, rills, and gullies.

The NFP and the Idaho Plan address rehabilitation and restoration of burned areas and fire-adapted ecosystems. Consider the following site restoration guidelines:
- Inventory the burned area for fire and fire suppression impacts to resources addressed above
- Fill in deep and wide fire containment lines
- Waterbar newly created roads or containment lines, as necessary, to prevent erosion
- Install sediment controls to prevent sedimentation of waterways
- Restore all fire staging areas with native seed mixes approved by BLM, NRCS, or other local experts
- Control all noxious weed invasions
- Evaluate the necessity to revegetate all or portions of the burn or areas impacted by fire suppression activities using native species by broadcast seeding, drilling, containerized stock or wildlings
- Encourage the use of plant stock from local collections of site-adapted stock

- Base decision to revegetate an area on inventories of affected areas for natural recovery that approaches pre-fire densities of native species
- Preclude off-road vehicle use in burned area for at least two growing seasons
- Continue monitoring until restoration is complete
- Conduct surveys of burned areas to assess damage to cultural resources.

In addition to the general mitigations, there are costs associated with ongoing training, prevention, and education efforts for areas within a Fire Protection District. The estimates below are provided for planning purposes and only represent estimated costs provided by R&S Enterprise (2002).

Training:	
Officer and Crew Refresher Courses	
12 participant's @ 40 Hours @ $12.00/hour	$7,200
Instructor	$2,000
Equipment and Materials	$2,000
	$11,000
Crew Level Training - New Recruits	
Ten (10) Participants @ 40 Hours @ $12.00/hour	$6,000
Instructor	$2,000
Equipment and Materials	$2,000
	$10,000
Prevention:	
Participation in: Local events	$5,000
Equipment and Supplies:	$5,000
Two 2) FIREWISE Programs	$20,000
	$30,000
Education:	
Twenty-six (26) home inspections annually; fire prevention seminars, educating homeowners on defensible space and what they should do in case of a wildfire: (pre attack planning).	5,000
Equipment and Supplies	$5,000
	$10,000
Equipment & Supplies:	
Suppression equipment and supply need:	$6,000
Annual maintenance	$1,500
Replacement through attrition	$7,500
	$15,000

4.1 Mitigation Plan for ACE FPD

Develop fuel breaks at least 200 feet in width from edge of road to fence line, property boundary or highway right-of-way, along an estimated 34.7 miles of existing roads. Develop fuel breaks adjacent to property lines for 9.0 miles and at least 200 feet in width (Figure 22). Flammable fuels would be removed through prescribed burning, mowing, mulching, disking, and/or herbicide application and seeding.

R&S Enterprise (2002) Mitigation Assessment described the need to install fuel breaks, brush/juniper clearing and reseeding with fire resistant vegetation over an estimated 400 acres northeast of Connor (Phase I) and 550 acres east of Elba (Phase II). The following is a breakdown of these costs (R&S Enterprise, 2002). Caution: Seed mixes will vary according to geographic location, soil types, precipitation, and vegetative communities present before fire.

Coordination/Administrative Costs:	$50,000
Civil Survey Flag Project Areas	$15,500
Fence Materials (3.0 miles@ $5000/mile)	$9,000
Fence Construction (3.0 miles@ $5,000/mile)	$15,000
Juniper/Brush Cutting	
Elba: (550 acres@ $400/acre)	$220,000
Connor: (400 acres@ $400/acre)	$160,000
Herbicide Purchase: (150 gals@ $40/gallon	$6,000
Herbicide Application (950 acres@ $15/acre)	$14,250
Seed Cost** (950 acres@ $13/acre)	$12,350
Drill Seeding (950 acres@ $16/acre)	$14,250
Contingency (success/failure)	$50,000
Subtotal: (project costs)	**$566,350**

**Native Seed mix

Species	Application Rate
Bluebunch wheatgrass	4.0lbs/acre
Thickspike wheatgrass	2.0lbs/acre
Idaho fescue	2.0lbs/acre
Eski sainfold	1.0lbs/acre
Appar Lewis flax	0.1lbs/acre
Total	9.1lbs/acre

Equipment for brush removal would be a four-wheel drive heavy tractor with a 16-foot flail mower attachment (or comparable equipment) suitable for rough terrain and heavy use. Equipment for juniper removal would be a Cat Track-hoe with a 7000 lb shredder mounted on the boom instead of a bucket. Use of a D-8 Caterpillar tractor to remove juniper during winter months when the ground is frozen would be an alternative.

Develop water refill sites or dry hydrants that are available year round to reduce travel and refill time for tankers and engines. The estimated cost is $750 to $1000 per hydrant including contractor labor and machine costs, 6-inch schedule 40 PVC pipe, a commercially made screen, and hydrant connector (Pohlman and White 2003)

Update road and water system maps for fire department use. The update should be computer capable to improve dispatching.

Construct a heated fire station to house fire equipment, a meeting/training room, fire district office with communication systems and a rapid water refill system. Explore other methods than bonding to finance this needed construction. Upgrade and replace old fire equipment as needed to meet expanding fire suppression needs.
Estimated costs (R&S Enterprise, 2002):

Station/Facility	$250,000
Refill Engine (4,000 gallon)	$120,000
Light Brush Truck	$105,000
Heavy Brush Truck	$250,000
Total	**$725,000**

Upgrade communication systems to facilitate better communication between dispatcher, emergency, disaster, and fire personnel regardless of agencies involved. Computer systems as well as radio and phone systems need to be linked to facilitate voice and data transfer.

Develop and maintain evacuation plans for all subdivisions, farms, ranches, quarries, recreational areas and the town in cooperation with disaster, emergency, and police personnel.

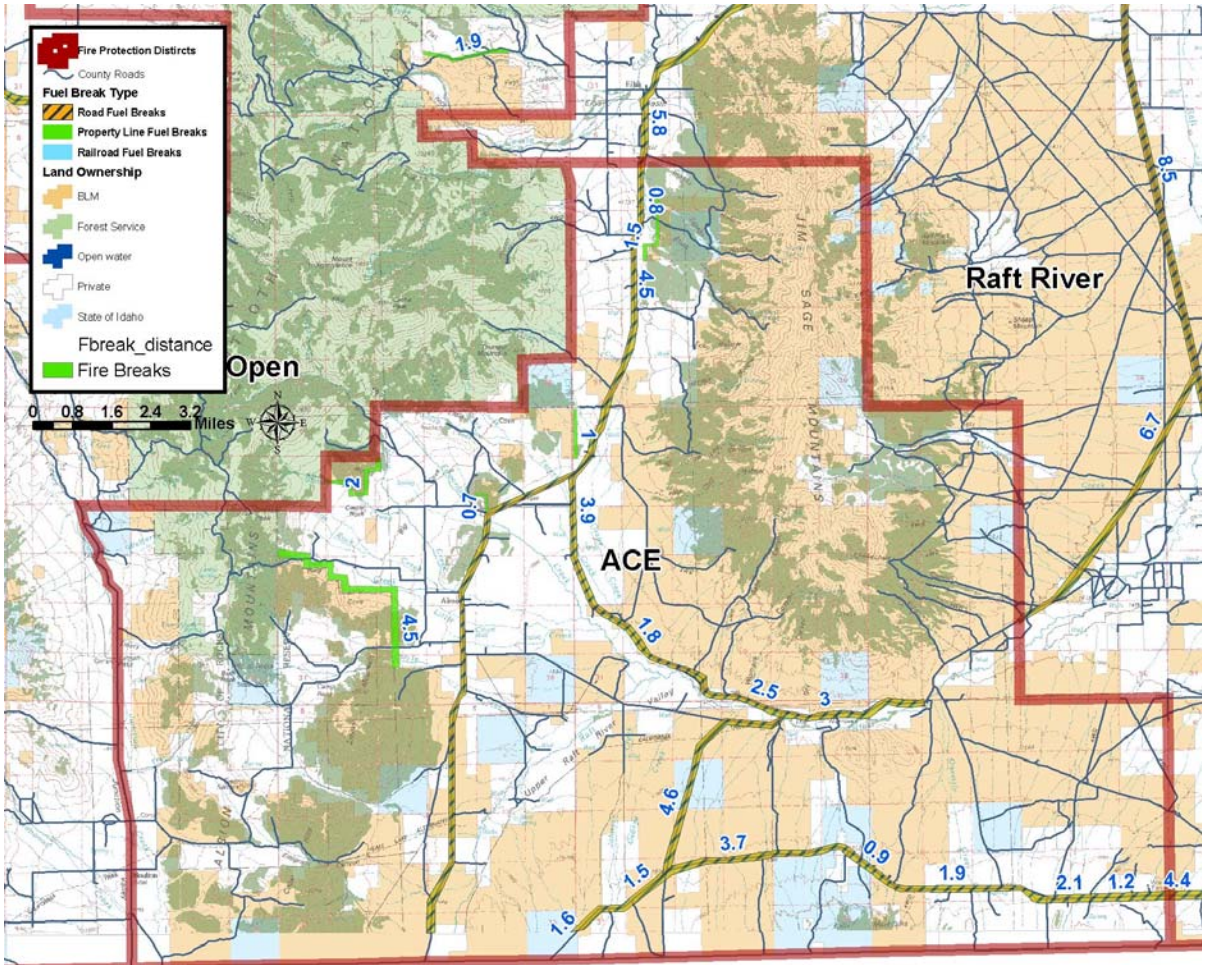

Figure 22. ACE Fire Protection District.

4.2 Mitigation Plan for Albion FPD

Develop fuel breaks at least 200 feet in width from edge of road to fence line, property boundary or highway right-of-way, along an estimated 16.0 miles of existing roads. Develop fuel breaks adjacent to property lines for 1.0 miles and at least 200 feet in width (Figure 23). Flammable fuels would be removed through prescribed burning, mowing, mulching, disking, and/or herbicide application and seeding. The estimated cost is $75 to $100 per linear mile including tractor/mower/brush hog and operator.

R&S Enterprise (2003) Mitigation Assessment described the need to install fuel breaks for 22 landowners in and around the City of Albion (500 acres), BLM and State lands (160 acres)and Sawtooth National Forest (264 acres).

The following is a fuel break cost for an estimated 924 acres. These costs compare favorably with costs noted in ACE FPD Mitigation Plan discussed above. However, for a complete breakdown see R&S Enterprise (2003). Caution: Seed mixes will vary according to geographic location, soil types, precipitation, and vegetative communities present before fire.

Private lands (500 acres)	$192,800
Interagency Project – Public lands (424 acres)	$203,360
Total	$396,160

Native Seed mix

Species	**Application Rate**
P-27 Siberian wheatgrass	3.0lbs/acre
Critana Thickspike wheatgrass	1.0lbs/acre
SecarSnake River wheatgrass	2.0lbs/acre
Eski sainfold	1.0lbs/acre
Alkar Tall wheatgrass	0.75lbs/acre
Ladak alfalfa	0.5lbs/acre
Forage kochia	0.5lbs/acre
Appar Lewis flax	0.1lbs/acre
Total	**8.85lbs/acre**

Equipment for brush removal would be a four-wheel drive heavy tractor with a 16-foot flail mower attachment (or comparable equipment) suitable for rough terrain and heavy use. Equipment for juniper removal would be a Cat Track-hoe with a 7000 lb shredder mounted on the boom instead of a bucket. Use of a D-8 Caterpillar tractor to remove juniper during winter months when the ground is frozen would be an alternative.

Update road and water system maps for fire department use. The update should be computer capable to improve dispatching.

Continue and expand existing firefighter training program so that all fire personnel are qualified in both wildland and structural fire suppression techniques.

Upgrade and replace old fire equipment as needed to meet expanding fire suppression needs.

Estimated costs (R&S Enterprise, 2003):

Type four Wildland Engine	$150,000
Type six Wildland Engine	$ 70,000
Refill Engine (2,000 gallon)	$120,000
Total	**$340,000**

Upgrade communication systems to facilitate better communication between dispatcher, emergency, disaster, and fire personnel regardless of agencies involved. Computer systems as well as radio and phone systems need to be linked to facilitate voice and data transfer.

Develop and maintain evacuation plans for all subdivisions, farms, ranches, quarries, recreational areas and the town in cooperation with disaster, emergency, and police personnel.

Develop water refill sites that are available year round to reduce travel and refill time for tankers and engines.

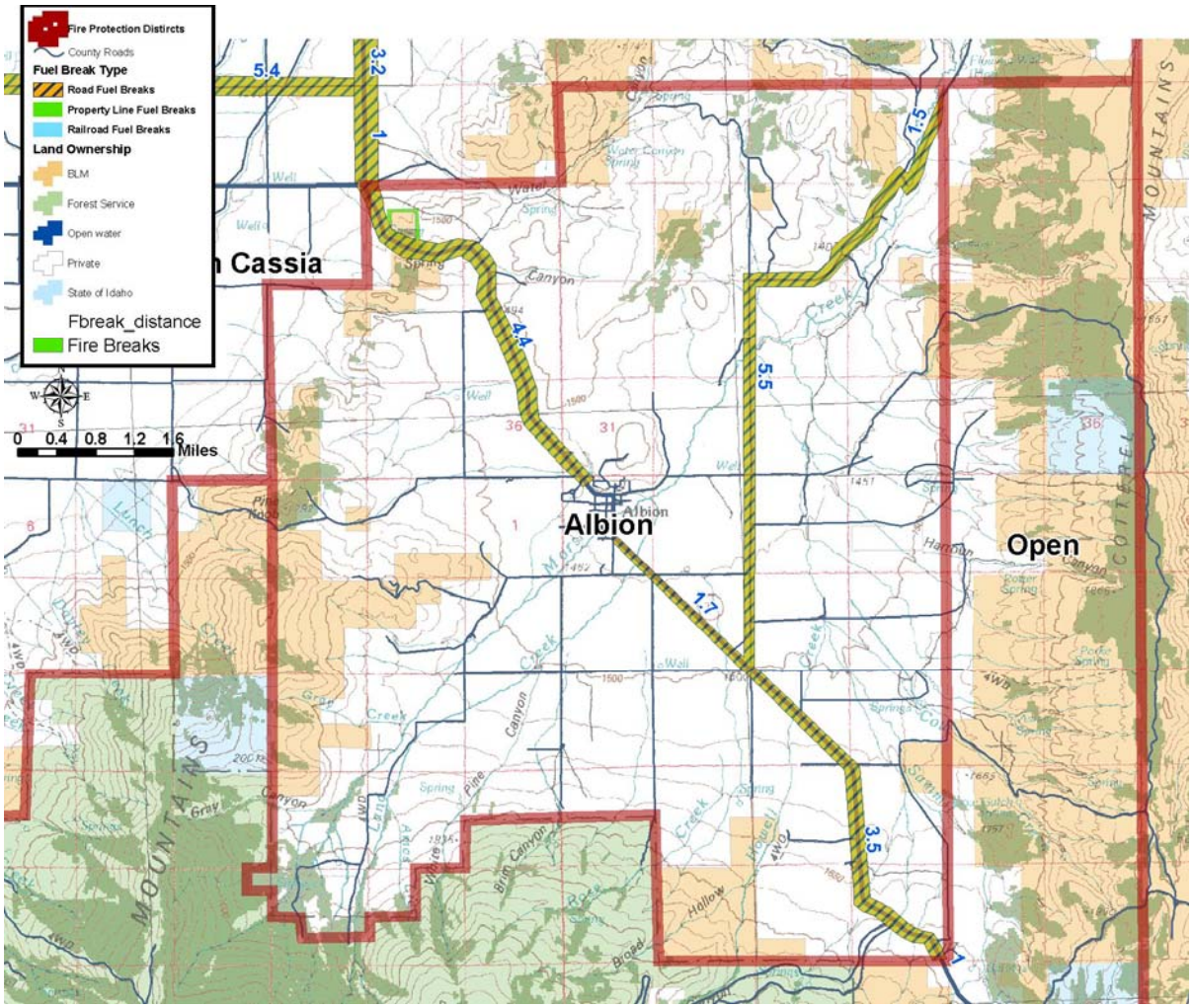

Figure 23. Albion Fire Protection District

4.3 Mitigation Plan for Burley/North Cassia FPD

Develop fuel breaks at least 200 feet in width from edge of road to fence line, property boundary or highway right-of-way, along an estimated 45 miles of existing roads. Fuel breaks would also be developed along 36.7 miles of railroad right-of-ways to a width not less than 50 feet from center of railroad tracks (Figure 24). Flammable fuels would be removed through prescribed burning, mowing, mulching, disking, and/or herbicide application and seeding. The estimated cost is $75 to $100 per linear mile including tractor/mower/brush hog and operator.

Develop with EIRR, and companies using sidings, a program that will reduce heavy grass and shrubs building along the railroads right-of-way. Work with Department of Transportation to develop and maintain mowed rights-of-way along interstate highways in the County in an effort to reduce fire hazard along the interstate and risk of fire moving arcos the highway.

Upgrade and replace old equipment as needed to meet expanding fire suppression needs.

Updating road and water system maps for fire department and will be loaded into the computer system to improve dispatching.

Communication systems need to be improved and updated to facilitate better communications between dispatcher, emergency, disaster and fire personnel regardless of agencies involved. Computer systems as well as radio and phone systems need to be linked to facilitate voice and data transfer.

Develop and maintain evacuation plans for all of the subdivisions, industrial areas and recreational areas in District.

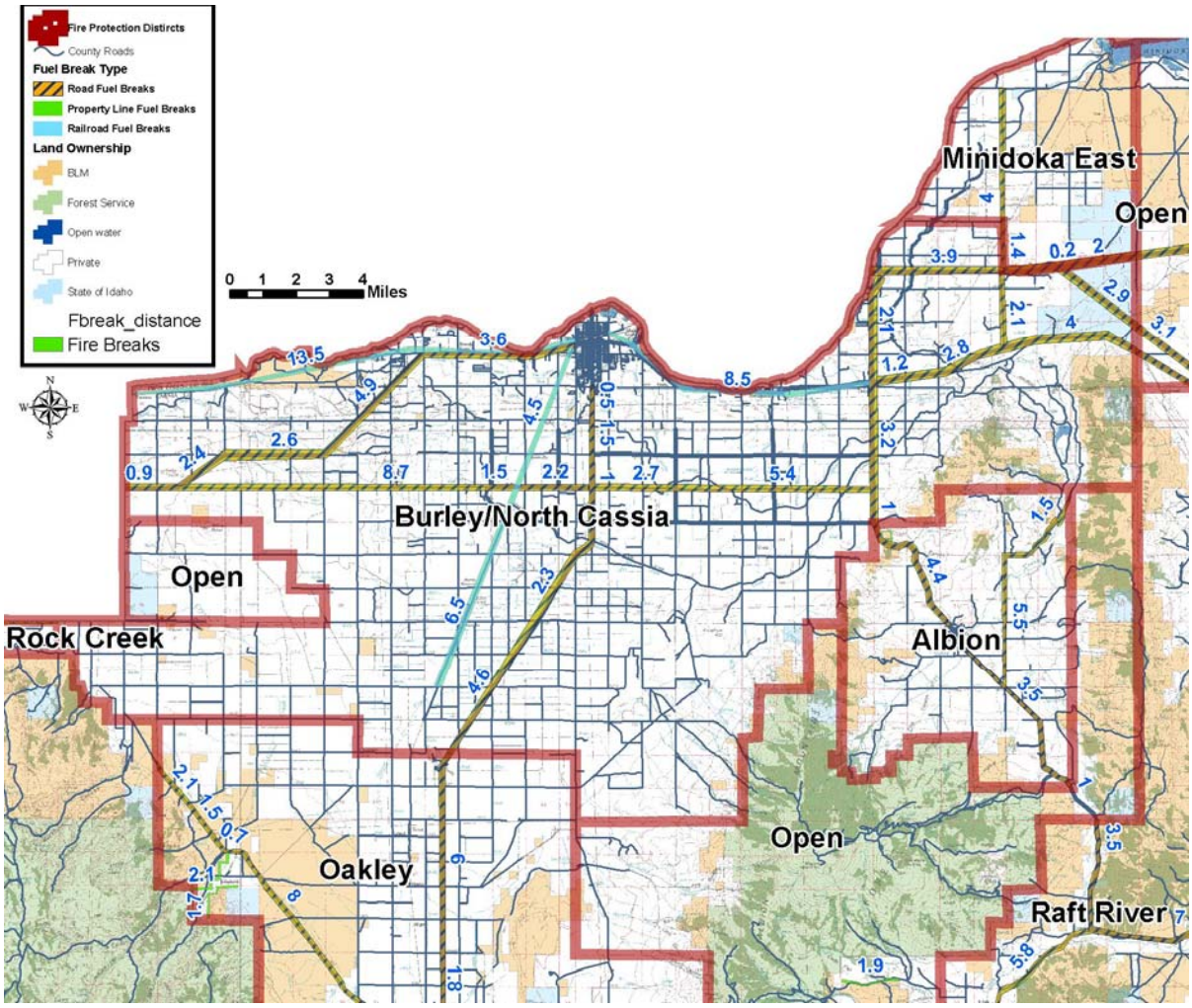

Figure 24. Burley/North Cassia Fire Protection District.

4.4 Mitigation Plan for Minidoka East End FPD

Develop fuel breaks at least 200 feet in width from edge of road to fence line, property boundary or highway right-of-way, along an estimated 9.1 miles of existing roads (Figure 25). Flammable fuels would be removed through prescribed burning, mowing, mulching, disking, and/or herbicide application and seeding. The estimated cost is $75 to $100 per linear mile including tractor/mower/brush hog and operator.

Develop with EIRR, and companies using sidings, a program that will reduce heavy grass and shrubs building along the railroads right-of-way. Work with Department of Transportation to develop and maintain mowed rights-of-way along interstate highways in the County in an effort to reduce fire hazard along the interstate and risk of fire moving arcos the highway.

Upgrade and replace old equipment as needed to meet expanding fire suppression duties as well as additional needed equipment.

Develop heated sub fire stations for fire equipment in more remote sections of FPD to provide timely year round suppression.

Update road system and water location maps for use by fire personnel. Develop or have software developed for computer system to ease updating problems in the future.

Communication systems need to be improved to facilitate better communication between dispatchers, emergency, disaster and fire personnel regardless agencies involved. Computer systems as well as radio and phone systems need to be linked to facilitate voice and data transfer.

Develop and maintain evacuation plans for all subdivisions, industrial sites and recreation areas in the FPD.

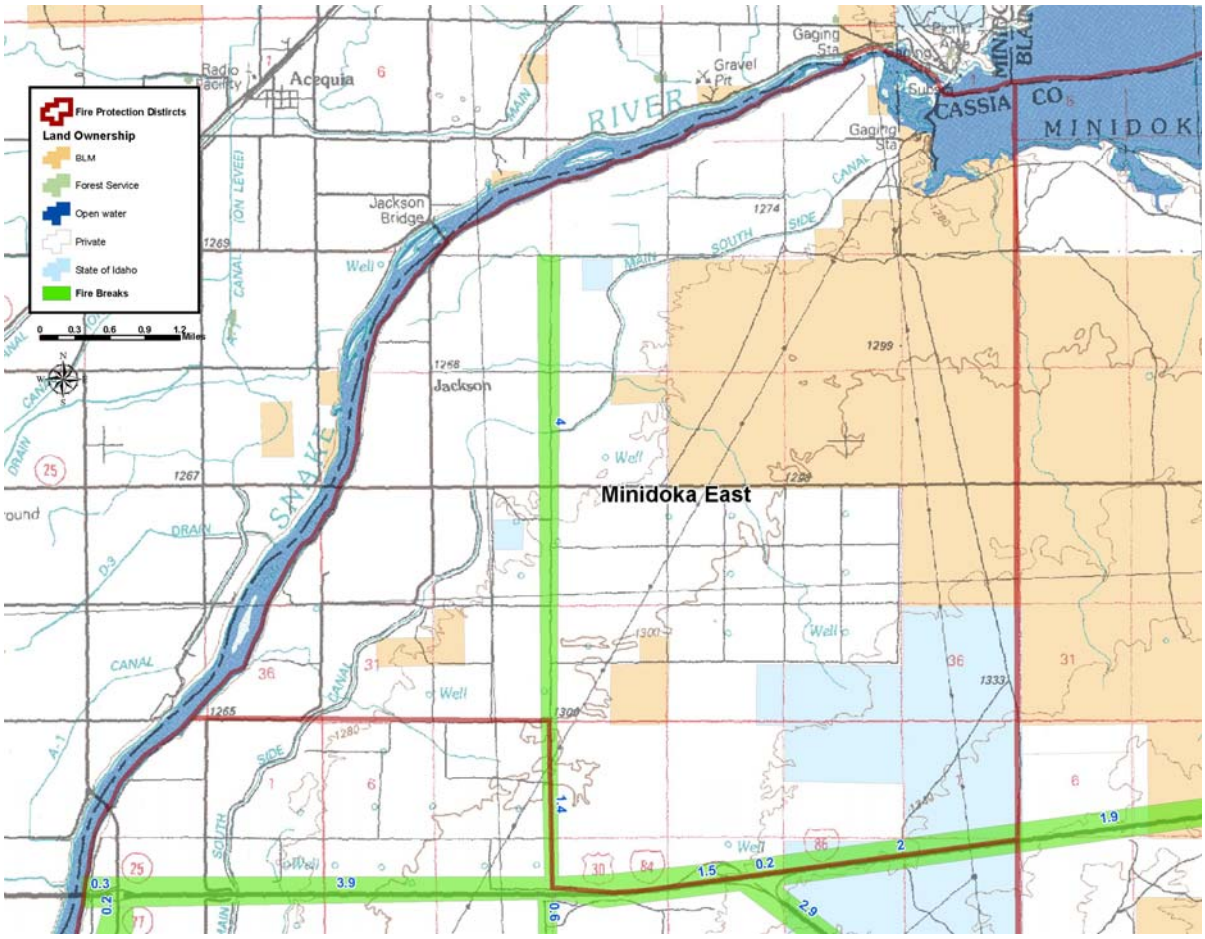

Figure 25. Minidoka East End Fire Protection District.

4.5 Mitigation Plan for Oakley FPD

Develop fuel breaks at least 200 feet in width from edge of road to fence line, property boundary or highway right-of-way, along an estimated 35.5 miles of existing roads. Develop fuel breaks adjacent to property lines for 1.7 miles and at least 200 feet in width (Figure 26). Flammable fuels would be removed through prescribed burning, mowing, mulching, disking, and/or herbicide application and seeding. The estimated cost is $75 to $100 per linear mile including tractor/mower/brush hog and operator.

R&S Enterprise (2003) Mitigation Assessment described the need to install fuel breaks or buffer strips for 17 landowners (850 acres), sites adjacent to public and State Lands (850 acres) and for the Basin Interagency Project Area (770 acres).

The following is a fuel break cost for an estimated 2470 acres. These costs compare favorably with costs noted in ACE FPD Mitigation Plan discussed above. However, for a complete breakdown see R&S Enterprise (2003). Caution: Seed mixes will vary according to geographic location, soil types, precipitation, and vegetative communities present before fire.

Private land (850 acres)	$327,550
State and Public land (850 acres	$277,850
Interagency Project (770 acres)	$313,700
Total	**$919,100**

Native Seed mix

Species	**Application Rate**
P-27 Siberian wheatgrass	3.0lbs/acre
Critana Thickspike wheatgrass	1.0lbs/acre
SecarSnake River wheatgrass	2.0lbs/acre
Eski sainfold	1.0lbs/acre
Alkar Tall wheatgrass	0.75lbs/acre
Ladak alfalfa	0.5lbs/acre
Forage kochia	0.5lbs/acre
Appar Lewis flax	0.1lbs/acre
Total	**8.85lbs/acre**

Equipment for brush removal would be a four-wheel drive heavy tractor with a 16-foot flail mower attachment (or comparable equipment) suitable for rough terrain and heavy use. Equipment for juniper removal would be a Cat Track-hoe with a 7000 lb shredder mounted on the boom instead of a bucket. Use of a D-8 Caterpillar tractor to remove juniper during winter months when the ground is frozen would be an alternative.

Install a dry hydrant system and/or drafting areas for engines and tenders along 1600 South Road (Figure 26) and at other locations previous mentioned in Section 3.

Upgrade and replace old fire equipment as needed to meet expanding fire suppression needs.

Upgrade and replace old fire equipment as needed to meet expanding fire suppression needs. Estimated costs (R&S Enterprise, 2003):

Station/Facility	$250,000
Refill Engine (2,000 gallon)	$120,000
Type Two Structural Engines (two each)	$250,000
Total	**$620,000**

Update road and water system maps for fire department use. The update should be computer capable to improve dispatching.

Construct a heated fire station to house fire equipment, a meeting/training room, fire district office with communication systems and a rapid water refill system. Explore other methods than bonding to finance this needed construction.

Develop and maintain evacuation plans for all subdivisions, farms, ranches, quarries, recreational areas and the town in cooperation with disaster, emergency, and police personnel.

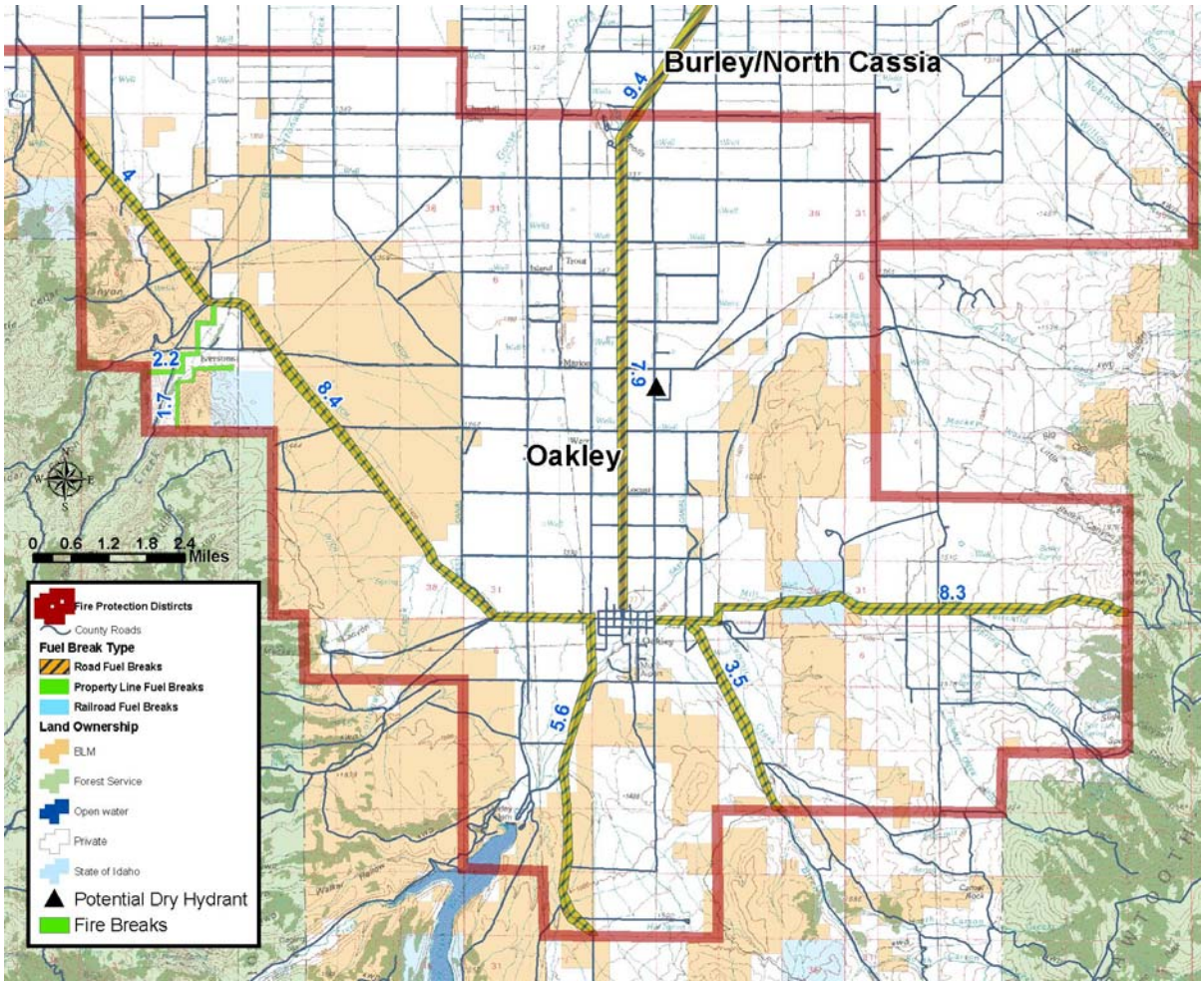

Figure 26. Oakley Fire Protection District.

4.6 Mitigation Plan for Raft River FPD

Develop fuel breaks at least 200 feet in width from edge of road to fence line, property boundary or highway right-of-way, along an estimated 77.7 miles of existing roads (Figure 27). Flammable fuels would be removed through prescribed burning, mowing, mulching, disking, and/or herbicide application and seeding. The estimated cost is $75 to $100 per linear mile including tractor/mower/brush hog and operator.

R&S Enterprise (2001) described the need to install 224 acres of fuel breaks, up to 2500 feet wide, within the city of Malta. However, costs were not identified in that report.

Develop heated sub fire stations for fire equipment in more remote sections of FPD to provide timely year round suppression. Estimated cost is $260,000 (R&S Enterprise, 2001).

Update road system and water location maps for use by fire personnel. Develop or have software developed for computer system to ease updating problems in the future.

Communication systems need to be improved to facilitate better communication between dispatchers, emergency, disaster and fire personnel regardless agencies involved. Computer systems as well as radio and phone systems need to be linked to facilitate voice and data transfer. The estimated cost is $5,000 (R&S Enterprise, 2001).

Consider the use of the local airfield as an alternate SEAT base. Alternate sources of funding could be explored. Estimated cost (R&S Enterprise, 2001):

Well and Standpipe	$ 15,000
Slurry Plant	$250,000
Drain Field	$120,000
Storage Facility	$ 20,000
Total	**$405,000**

Upgrade and replace old fire equipment as needed to meet expanding fire suppression needs. Estimated costs (R&S Enterprise, 2001):

Light Brush Truck	$ 60,000
Heavy Brush Truck	$ 85,000
Refill Engine	$ 90,000
Total	**$235,000**

Upgrade Malta landing field with taxi-way and parking ramp. Estimated cost is $140,000 (R&S Enterprise, 2001).

Deepen well at Malta Fire Station.

Conduct a juniper cutting through the heavy juniper encroachment areas. The estimated cost is $400 per acre (R&S Enterprise 2001).

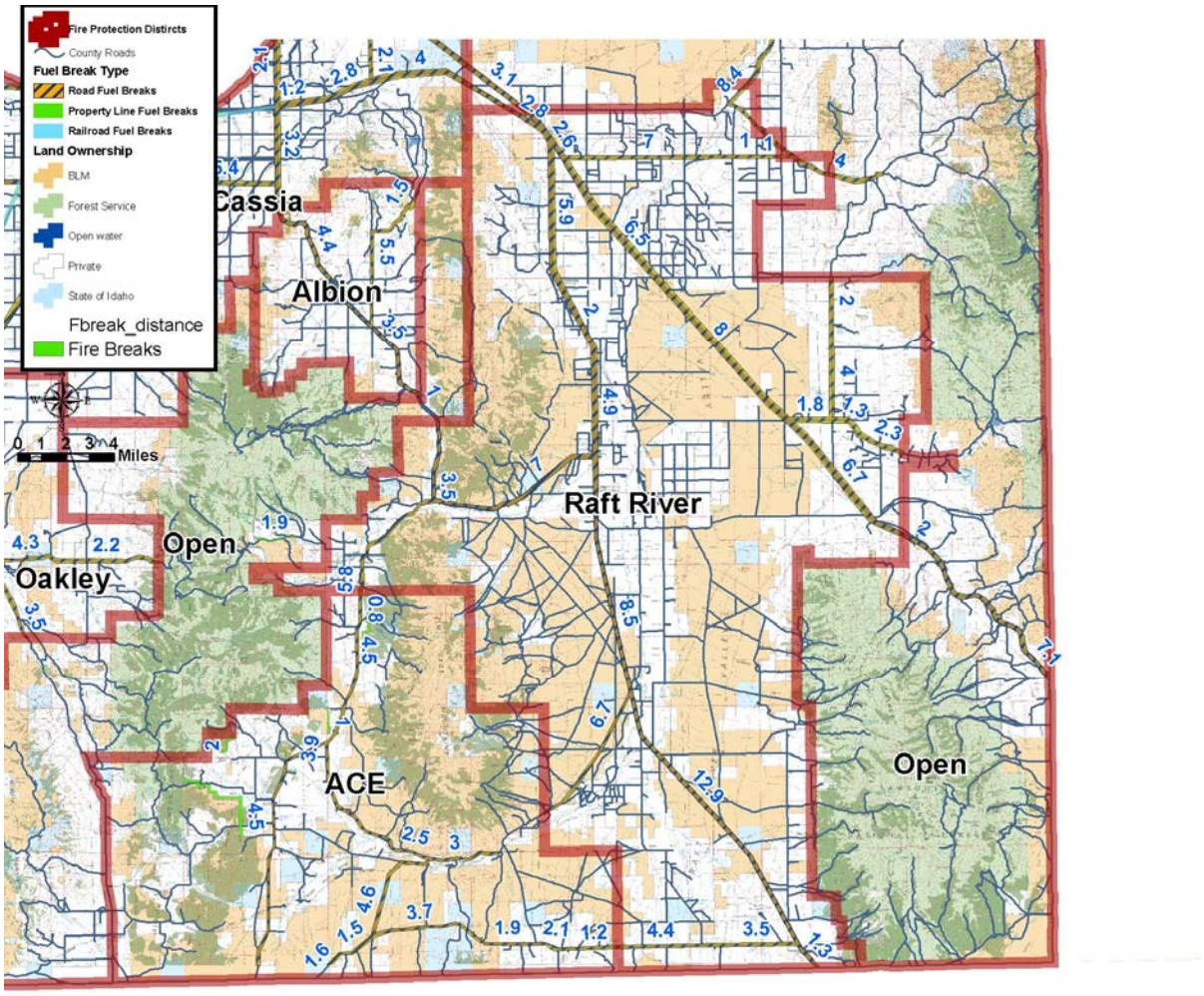

Figure 27. Raft River Fire Protection District.

4.7 Mitigation Plan for Rock Creek FPD

Develop fuel breaks at least 200 feet in width from edge of road to fence line, property boundary or highway right-of-way, along an estimated 14.4 miles of existing roads (Figure 28). Flammable fuels would be removed through prescribed burning, mowing, mulching, disking, and/or herbicide application and seeding. The estimated cost is $75 to $100 per linear mile including tractor/mower/brush hog and operator.

Upgrade and replace aging fire equipment as needed to meet expanding fire suppression needs.

Update road and water system maps for fire department use. The update should be computer capable to improve dispatching.

Construct a heated fire station to house fire equipment, a meeting/training room, fire district office with communication systems and a rapid water refill system. Explore other methods than bonding to finance this needed construction.

Upgrade communication systems to facilitate better communication between dispatcher, emergency, disaster, and fire personnel regardless of agencies involved. Computer systems as well as radio and phone systems need to be linked to facilitate voice and data transfer.

Develop and maintain evacuation plans for all subdivisions, farms, ranches, quarries, recreational areas and the town in cooperation with disaster, emergency, and police personnel.

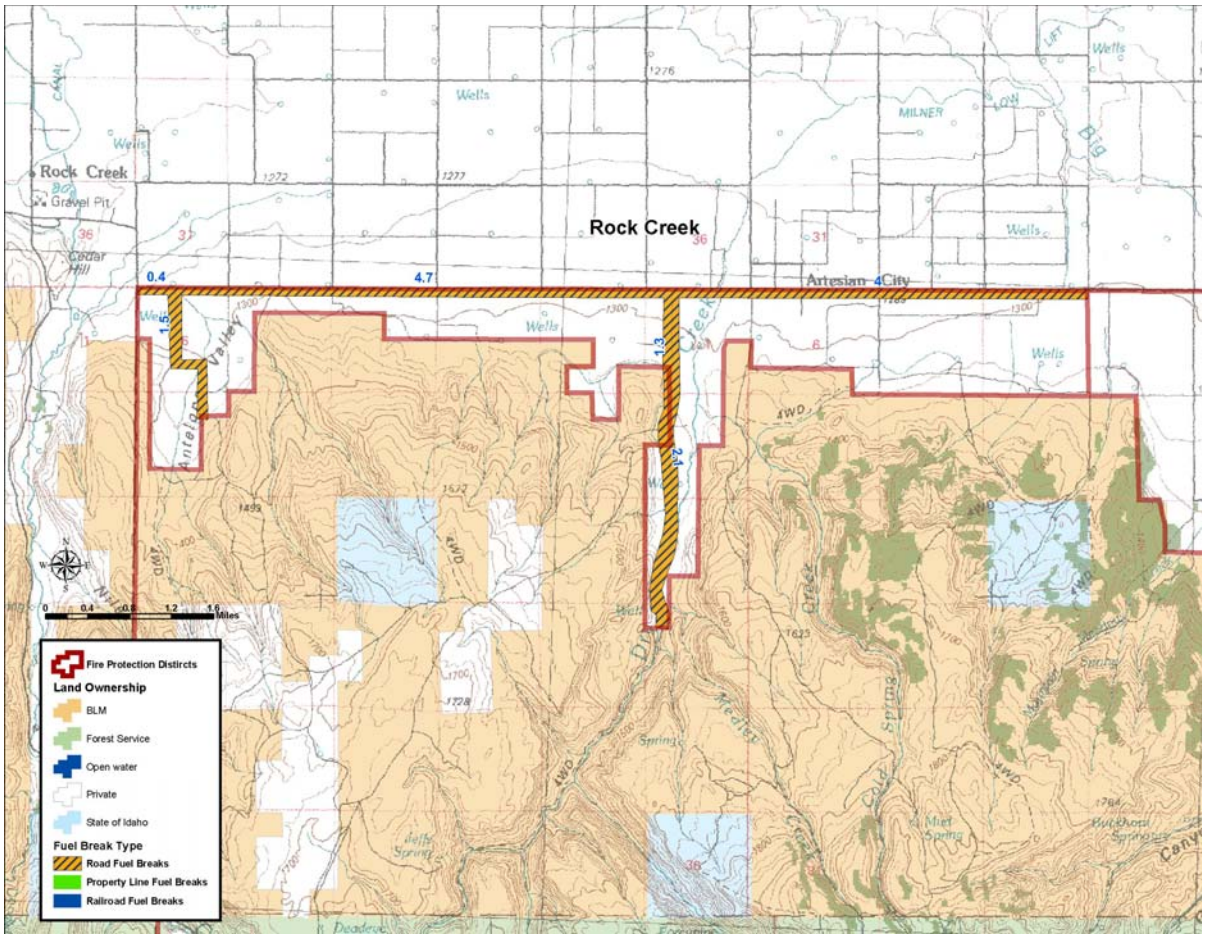

Figure 28. Rock Creek Fire Protection District.

4.8 Mitigation Plans for Open Areas

Develop fuel breaks at least 200 feet in width from edge of road to fence line, property boundary or highway right-of-way, along an estimated 38.7 miles of existing roads in the northeast and southeast corners of the county (Figure 1). Flammable fuels would be removed through prescribed burning, mowing, mulching, disking, and/or herbicide application and seeding. The estimated cost is $75 to $100 per linear mile including tractor/mower/brush hog and operator.

Landowners and FPDs need to develop cooperative and mutual aid agreements.

Develop with EIRR and companies using sidings a program that will reduce heavy grass and shrubs building along the railroads right-of-way. Work with Department of Transportation to develop and maintain mowed rights-of-way along interstate highways in the County in an effort to reduce fire hazard along the interstate and risk of fire moving across the highway.